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U.S. Department of Commerce
Patent and Trademark Office
Washington, D.C. 20231

Organization TC 3600
Bldg/Room CPK5
Examiner: Naoko Slack

Subject: Response to Office Action
Application 09/769,879
Title: Gravity Balance Frame

Dear Examiner:

Drawings are revised as commented.

The word " compressing " in claims 1 and 6, Line 2 is revised to " comprising".

The claims were rejected due to the relevant prior arts by (1) Japanese Patent 5-91242, (2) US Patent 5845438, and (3) Japanese Patent 4-153424A. Although the prior arts (1) and (2) have similar V-shaped bracing to the present application, both are based on using damping to reduce the vibration of the building. In order to increase the damping, both require esoteric and expensive damping devices as described in Item (b), Page 2 of the application. On the contrary, the "Global Balance Frame" utilizes the gravity load to resist seismic load by using "tension-only" braces. The system is simple and reliable. Although the V-shape braces of the two quoted prior arts appear similar to the "Global Balance Frame", the theoretical bases are entirely different. In fact, V-shape bracing was used as a common building bracing type, as described in the last paragraph of "Background", Page 2. However, this conventional system utilizes the bracing itself under tension and compression to absorb seismic energy, which has only limited capacity. See also attached pages from NEHRP Handbook.

Prior art No. 3 requires a non-column space on the first story to create large tension on the bracing under vertical load. During earthquake both braces are required to be under tension. This is a system utilizing conventional structural component to absorb seismic energy as described on Item (a), Page 1. In contrary, the "Global Balance Frame" is so designed such that under seismic load the brace on one side of certain floor will be buckled elastically under compression, while the other in tension, so that a "roly-poly man" action will be induced, and gravity energy utilized to resist seismic load. This was

described in the application in general and specifically from last paragraph on Page 6 to top of Page 7, and Fig. 6a to 6d.

In conclusion, the reasons for rejecting the claims based only on the appearance of the bracing arranged in the V-shape of Prior Arts (1) to (3) neglect the different theoretical basis for resisting seismic load as compared to our proposed system.

Sincerely

Ma-Chi Chen

Ma-Chi Chen, Ph. D.